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09/583,388	05/30/2000	Donald F. Gordon	SEDN/245CIP4	1364

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EXAMINER

MA, JOHNNY

ART UNIT PAPER NUMBER

2623

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/583,388	<b>Applicant(s)</b> GORDON ET AL.	
	<b>Examiner</b> Johnny Ma	<b>Art Unit</b> 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 8 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 13 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 8 and 10-12 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that “the [Zdepski and Ribas-Corbera] combination fails to teach or suggest background stripes that visually separate text information” (see Remarks, pg. 4 of 7). The Examiner respectfully disagrees. Applicant appears to argue that background stripes that visually separate text information are the elements represented by reference numbers 110-1 to 110-8 as illustrated in Figure 1. However, the newly added limitation is not so limited. Rather, the examiner respectfully submits that Zdepski teaches the claimed “background stripes that visually separate text information.” The Zdepski et al. reference teaches a “compressed background picture comprises a plurality of slices [background stripes]” (Zdepski 2:66-67) wherein a plurality of picture slices may replace slices in the compressed background picture (Zdepski 3:1-16). Furthermore, the Zdepski et al. reference teaches that the picture slices may comprise text (Zdepski 5:2-6; 9:23-33). A subset of the Zdepski background stripes (slices) are replaced with picture data that includes text and the remaining background stripes serve to visually separate the picture data information.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zdepski et al. (US 2002/0122598 A1 of record) in further view of Ribas-Corbera et al. (US 6,385,345 B1 of record).

As to claim 8, note the Zdepski et al. reference that discloses an interactive television system and method for displaying a graphical user interface using insert pictures. The claimed “dividing an information section of a user interface into a plurality of macroblocks” is met by “[i]n the preferred method of the present invention, the encoder compresses both the background and insert pictures, which the background bit stream having the necessary slice structure” (Zdepski 10:39-42) wherein “[e]ach of the background and insert pictures are comprised of slices” and the slices comprise macroblocks (Zdepski 2:51-65). The claimed “the user interface including the information section and a display section” is met by “the video delivery system provides a compressed background picture [information section] and one or more compressed insert pictures [display section]. Each of the compressed insert pictures represents a display portion of the GUI” (Zdepski 2:51-65). The claimed “the information section including a plurality of background stripes” is met by “the compressed background picture comprises a plurality of slices [background stripes]” (Zdepski 2:66-67). Further note, the Zdepski reference teaches that the graphical user interface may include items such as selections or buttons, answers to a television game show, a text box etc. (Zdepski 5:2-18; 9:17-32, text information. The claimed “[background stripes] that visually separate text information” is met by “[t]he compressed insert picture slices preferably include position data indicating the location in the background picture where they are to appear...The pasting operation preferably comprises replacing the replacement slices in the compressed background picture with the slices comprising

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the compressed insert picture” (Zdepski 3:1-19). In other words, a subset of the Zdepski background stripes (background slices) are replaced with picture data, including text as discussed above, wherein the remaining background stripes serve to visually separate information (picture data), including text. The claimed “the macroblocks not crossing any border between two adjacent background stripes” is met by the Zdepski et al. background slices as discussed above wherein it is inherent that “the macroblocks not cross[ing] any border between two adjacent background stripes” as defined in the MPEG specification, also note Figure 4A where the slices do not overlap. Note, the Zdepski et al. reference discloses encoding a MPEG-2 compliant stream (Zdepski 10:39-67). However, the Zdepski et al. reference does not specifically disclose the procedure in which this encoding is performed. Now note, the Ribas-Corbera et al. reference that discloses a method and apparatus for selecting image data to skip when encoding digital video. Ribas-Corbera et al. reference discloses dividing into macroblocks wherein “[i]n block-based image coding, the image frame 11 to be encoded is decomposed into multiple image blocks 14 of the same size, typically of 16x16 pixels per block 14” (Ribas-Corbera [0029]). The claimed “generate a transformed image” is met by “[t]he pixel values of the block 14 are transformed in transform 16 into a set of coefficients” (Ribas-Corbera [0029]). The claimed “quantizing the transformed image to generate a quantized image and encoding the quantized image to generate an encoded image of each macroblock” is met by “[t]he coefficients output from transform 16 are quantized in quantizer 18 according to a set of quantization values 22 and further encoded in coder 20” (Ribas-Corbera [0029]). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Zdepski et al. MPEG encoding with the Ribas-Corbera block skipping for the

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purpose of providing “more efficient bit rate control by not allocating bits to blocks or frames that should not be encoded” (Ribas-Corbera et al. [0014]).

4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdepski et al. (US 2002/0122598 A1 of record) in further view of Ribas-Corbera et al. (US 2002/0122598 of record), Vasconcelos (“Pre and Post-Filtering For Low Bit-Rate Video Coding” of record) and Lee et al. (US 5,748,789 of record).

As to claims 10 and 11, note, the Zdepski et al. and Ribas-Corbera combination teaches forward transforming, quantizing, and encoding as discussed in the rejection of claim 8. However, the Zdepski et al. and Ribas-Corbera combination is silent as to low-pass filtering. Now note the Vasconcelos reference teaching pre and post-filtering for low bit-rate video coding. The Vasconcelos reference discloses pre-filtering to eliminate as much high frequency information as possible without compromising image quality and aims to eliminate high frequency sensor noise to avoid blurring of object boundaries (Vasconcelos, see Section 2. Pre-Filter). The Vasconcelos reference further discloses the use of low-pass filtering in the pre-filtering step (Vasconcelos, see Section 2. Pre-Filter). The claimed low-pass filtering reduces visual defects from encoding of the background stripes is met by the disclosed filtering to avoid blurring of object boundaries. Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Zdepski et al. and Ribas-Corbera et al. combination teaching a forward transformed image for quantization and encoding with the Vasconcelos prefiltering for the purpose of facilitating the separating of background information and graphics wherein it is understood that the prefiltering step occurs before quantization. Furthermore, the Zdepski et al. reference does not specifically disclose

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encoding a blank background for the display section by skip encoding, when subsequent values of the display section do not change from corresponding intra-coded values at a predetermined time. Now note the Lee et al. reference discloses transparent block skipping in object-based video coding systems wherein “[c]ompression of video information (i.e., video sequences or signals) can provide economical storage and transmission of digital video information in applications that include, for example, interactive or digital television and multimedia computer applications...Conventional video compression techniques utilize similarities between successive image frames, referred to as temporal or interframe correlation, to provide interframe compression in which pixel-based representations of image frames are converted to motion representations. In addition, conventional video compression techniques utilize similarities within image frames, referred to as spatial or intraframe correlation, to provide intraframe compression in which the motion representations within an image frame are further compressed” (Lee 7:47-65). The claimed “skip encoding, when subsequent values of the display section do not change from corresponding intra-coded values at a predetermined time” is met by “[o]nce these transparent macroblocks and blocks are identified, the coder and decoder can skip coding for these macroblocks or blocks. Skipping of transparent information blocks applies when the entire transformation block is transparent...An example of a transparent macroblock is macroblock 1548, which lies entirely outside object 1540” (Lee 43:63-44:44:6). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Zdepski et al. blank background with the Lee et al. skip encoding for the purpose of providing economical storage and transmission of graphical user

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information to the user. Note the skipping of transparent macroblocks, i.e. the background, equates to the skip encoding of the subsequent values of the display section that do not change.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zdepski et al. (US 2002/0122598 A1 of record) in further view of Ribas-Corbera et al. (US 6,385,345 B1 of record) and Eschbach (US 5,379,122 of record).

As to claim 12, the claimed “wherein lossless encoding is applied to the quantized image.” Note the Zdepski et al. and Ribas-Corbera et al. combination teaches the encoding of a quantized image as discussed in the rejection of claim 8. however, the Zdepski et al. and Ribas-Corbera et al. combination is silent as to whether the encoding process is lossy or lossless. Now note the Eschbach reference that discloses a decompression of standard ADCT-compressed images. The claimed “wherein lossless encoding is applied to the quantized image” is met by the encoding of an image “by a forward transform coding operation...each transform coefficient is divided by a quantizing value from a quantization table and the integer portion of a result is used as a quantized transform coefficient, and the blocks of quantized transform coefficients are encoded with a lossless encoding method” (Eschbach 5:1-15). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Zdepski et al. and Ribas-Corbera et al. encoding of a quantized image with the Eschbach lossless encoding of the quantized image for the purpose of providing coding/transmission efficiency by reducing bandwidth/storage constraints without the further loss of image data.

***Allowable Subject Matter***



6. Claims 13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art, alone or in combination, does not teach or fairly suggest “where the macroblocks do not cross any border between two adjacent background stripes” and wherein the background stripes visually separate the text information into channels and/or timeslots.

The **Zdepski et al.** reference (US 6,606,746 B1) discloses an interactive television system and method for displaying a graphical user interface using insert pictures. The Zdepski et al. reference discloses MPEG compression of background and insert pictures. The Zdepski et al. reference also discloses macroblocks. However, the Zdepski et al. reference alone or in combination fails to teach macroblocks that do not cross any border between two adjacent background stripes wherein the background stripes visually separate the text information into channels/timeslots.

The **Ribas-Corbera et al.** reference (US 2002/0122598 A1) discloses a method and apparatus for selecting image data to skip when encoding digital video. The Ribas-Corbera et al. reference discloses dividing into macroblocks wherein in block-based image coding, the image frame 11 to be encoded is decomposed into multiple image blocks 14 of the same size, typically of 16x16 pixels per block 14. The Ribas-Corbera et al. also discloses generating a transformed image where the pixel values of the block 14 are transformed in transform 16 into a set of coefficients. The Ribas-Corbera et al. reference also discloses quantizing the transformed image to generate a quantized image and encoding the quantized image to generate an encoded image

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of each macroblock where the coefficients output from transform 16 are quantized in quantizer 18 according to a set of quantization values 22 and further encoded in coder 20. However, the Ribas-Corbera alone or in combination fails to disclose “where the macroblocks do not cross any border between two adjacent background stripes” wherein the background stripes visually separate the text information into channels/timeslots.

The **Wang et al.** reference (US 6,389,075 B2) discloses a MPEG encoding technique for encoding web pages wherein an “encoder 22 proceeds to step 206 to adjust the macroblock boundary alignment so that each animation window is expanded to its nearest macroblock boundaries... The four equalities of equation 8 are integer operations which generate a new set of coordinates that define a new animation window whose frame boundary aligns with the macroblock boundaries” (9:67-10:20). However, the Wang et al. reference, alone or in combination, fails to teach “where the macroblocks do not cross any border between two adjacent background stripes” wherein the background stripes visually separate the text information into channels/timeslots.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnny Ma whose telephone number is (571) 272-7351. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jm

  
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